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PARACHANNA NOM. NOV. FOR THE AFRICAN SNAKE-HEADS AND REHABILITATION OF *PARACHANNA INSIGNIS* (SAUVAGE, 1884) (PISCES, CHANNIDAE).

by

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RESUME. – *Parophiocephalus* Senna, 1924, s'est avéré être un *nomen praeoccupatum* et les auteurs proposent de le remplacer par *Parachanna* nom. nov. Après réexamen de 68 exemplaires de *Parachanna obscura* et *P. insignis*, comprenant les types de ces deux espèces, celles-ci sont considérées comme distinctes. De nouveaux caractères sont donnés, permettant de les séparer l'une de l'autre.

SUMMARY. – *Parophiocephalus* Senna, 1924 is shown to be a *nomen praeoccupatum* and is hereby replaced by *Parachanna* nom. nov. After re-examining 68 specimens of *Parachanna obscura* and *P. insignis*, including the type specimens, these two species are considered as distinct. New diagnostic characters are given to distinguish both.

Key-words : Channidae, *Parachanna* nom. nov., *P. obscura, P. insignis,* systematics.

Parachanna nom. nov.

Type species : *Ophiocephalus obscurus* Günther, 1861.

The nomenclature of the African snake-heads has always been rather confused, especially at the generic level. This is obviously due to their relationship with the Asian species, which, unfortunately, has never been thoroughly examined. This will be however, the subject of a forthcoming paper.

Günther (1861) described *Ophiocephalus obscurus* as the first African Channidae species. The generic name is an unjustified emendation of *Ophicephalus* Bloch, 1794, introduced for Asian species, which, according to Günther, are congeneric.

Subsequently two other African Channidae were described : *Ophiocephalus africanus* Steindachner, 1879 and *Ophiocephalus insignis* Sauvage, 1884.

Myers & Shapovalov (1932) synonymised *Ophicephalus* Bloch, 1794 with *Channa* Scopoli, 1777. Due to this synonymy, based only on the study of Asian species, several authors reported the African species in the genus *Channa : C. obscura, C. africana, C. insignis.*

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Senna (1924) however, previously introduced *Parophiocephalus* as a new subgenus of *Ophiocephalus*, for the African species, differing from the Asian ones in a simplified suprabranchial organ. Berg (1940) raised this group to the generic level. At present, African Channidae are generally been referred to under the generic name *Parophiocephalus.*

Again however, this name must now be changed. In 1905, Popta described *Parophiocephalus* with *P. unimaculatus* Popta, 1905 as the type species. This genus has subsequently been synonymised with *Betta* Bleeker, 1850 but has recently been rehabilitated (Richter, 1982). Nevertheless, it is obviously clear that *Parophiocephalus* Senna, 1924 is a nomen praeoccupatum and has to be replaced. Therefore we introduce *Parachanna* as the new generic name for the African Channidae. Three valid species are known, as *Parachanna insignis*, which was synonymised with *P. obscura* by Matthes (1964), is rehabilited hereafter.

REHABILITATION OF *PARACHANNA INSIGNIS* (SAUVAGE, 1884)

Sauvage (1884) described *Ophiocephalus insignis* as a new species of Ophiocephalidae on five specimens from Franceville, Upper Ogowe river, in the former French Congo (Gaboon). According to the author, his new species differs from the closely related *Ophiocephalus obscurus* Günther, 1861 (described from West-Africa, but also known by then from the Nile and the Congo) by its body proportions and by its reduced number of scales on the lateral line (48-50 in *O. insignis*, 66-70 in *O. obscurus*).

Boulenger (1901) emphasized the close resemblance between both species. After examining a large number of specimens however, he was of the opinion that both should be treated as distinct on the base of different scale numbers : *Ophiocephalus insignis* showed 83-90 scales on a longitudinal row above the lateral line, 8-9 scales transversally above the lateral line and 19-20 transversally below the lateral line (the latter two counts are made under the base of the first dorsal fin ray) ; *Ophiocephalus obscurus* on the other hand showed only 62-76 scales longitudinally, 8-9 transversally above the lateral line and 14-15 transversally below this line. Except from the Ogowe river, Boulenger (1901) reported *O. insignis* from several localities on the Central Zaire system.

Steindachner (1914) mentioned a single specimen of this species from the Ja river (Cameroon) showing 84-85 scales longitudinally and 8/17 transversally.

Poll (1942) questioned the validity of *Ophiocephalus insignis* and synonymised it (without giving any data) with *O. obscurus* (Poll, 1957).

Daget & Stauch (1963) noted the presence of both, *Parophiocephalus insignis* and *P. obscurus* in samples from the same locality on the Central Zaire system. The former shows 8-9 scales above the lateral line and over 80 longitudinally placed scales, while the latter shows 6-7 scales above the lateral line and less than 80 scales in the lateral line.

Finally, Matthes (1964) in his study on the fishes from Lake Tumba, synonymised *Ophiocephalus insignis* and *O. obscurus.* Matthes (l.c.) stated : "... nous avons comparé les types d'*O. obscurus* du British Museum à d'autres specimens de la même espèce ainsi qu'à des exemplaires attribués à *O. insignis*, sans pouvoir découvrir de différences valables... Quant au nombre d'écailles, il semble très variable, même chez des specimens provenant d'une même localité (Lac Tumba), sans que l'on puisse pour autant classer les individus en deux catégories sur la base de ce caractère, puisque des intermédiaires existent. Il semble donc n'y avoir qu'une seule espèce *O. obscurus* et l'existence de populations localisées, différant plus ou moins fortement quant au nombre d'écailles, explique aisément la variabilité assez étendue pour ce caractère." Matthes mentioned 8 specimens in his list of study material.

Preparing the Channidae part for the Check-List of the Freshwater Fishes of Africa (CLOFFA), the necessity of a thorough comparison between both *Parachanna insignis* and *P. obscura* became obvious. Studying a large number of specimens, more details on the status of both nominal species became available, which hopefully will contribute to a better knowledge of the systematics of this group.

Material

68 specimens mainly housed in the Muséum National d'Histoire Naturelle (MNHN), Paris (France) and in the Musée Royal de l'Afrique Centrale (MRAC), Tervuren (Belgium) have been examined.

Parachanna insignis (Sauvage, 1884)

MNHN 1884.301-305. Franceville, Haut-Ogooué (1°40'S-13°31'E); coll. Schwebisch; 5 syntypes of *Ophiocephalus insignis* Sauvage, 1884; 237-440 mm TL.

MNHN 1926.230-231. Congo Belge (?); coll. Schouteden; 2 specimens; 140-156 mm TL.

MNHN 1962.351. Likouals aux Herbes à Mossaka (1°13'S-16° 48'E); coll. Stauch; 1 specimen; 101 mm TL.

MNHN 1962.352. Likouala aux Herbes à Boloko (0°45'S-16°38'E); coll. Stauch; 1 specimen; 68 mm TL.

MNHN 1962.353.Likouala aux Herbes à Bakonango (0°46'S-17°10'E); coll. Stauch; 7 specimens; 94-189 mm TL.

MRAC 1019. Ibali (2°03'S-18°11'E); coll. Delhez; 1 specimen; 381 mm TL.

MRAC 1020A. Coquilhatville (0°04'N-18°16'E); coll. Delhez; 1 specimen; 281 mm TL.

MRAC 1021. Kutu (2°44'S-18°08'E); coll. Delhez; 1 specimen; 335 mm TL.

MRAC 1147. Banzyville (4°18'N-21°10'E); coll. Royaux; 1 specimen; 197 mm TL.

MRAC1361-1364. Eala (0°04'N-15°20'E); coll. Laurent; 4 specimens; 251-450 mm TL.

MRAC 2802. Kunzulu (3°29'S-16°08'E); coll. Maes; 1 specimen; 161 mm TL.

MRAC 17505-508. Bikoro (0°40'S-18°02'E); coll. Schouteden; 4 specimens; 139-155 mm TL.

MRAC 18599. Tondu (0°50'S-18°07'E); coll. Schouteden; 1 specimen; 106 mm TL.

MRAC 19234. Eala (0°04'N-18°20'E); coll. Schouteden; 1 specimen; 223 mm TL.

MRAC 21125. Kimpese, Bas Congo (5°32'S-14°26'E); coll. Sterckx; 1 specimen; 240 mm TL.

MRAC 21493.Panga (1°52'N-26°23'E); coll. schouteden; 1 specimen; 97 mm SL.

MRAC 21516-517. Buta (2°47'N-24°50'E); coll. Schouteden; 2 specimens; 112-115 mm TL.

MRAC 22500. Koteli (2°51'N-24°34'E); coll. Schouteden; 1 specimen; 152 mm TL.

MRAC 22507-508. Koteli (2°51'N - 24°34'E); coll. Schouteden; 2 specimens; 111-112 mm TL.
MRAC 30304. Buta (2°47'N-24°50'E); coll. Schouteden; 1 specimen; 86 mm TL.
MRAC 31145-146. Buta (2°47'N-24°50'E); coll. Hutsebaut; 2 specimens; 176-182 mm TL.
MRAC 31754. Bumba (2°11'N-22°32'E); coll. Babilon; 1 specimen; 117 mm TL.
MRAC 62043-044. Buta (2°47'N-24°50'E); coll. Hutsebaut : 1 specimen; 189 mm TL.

Parachanna obscura (Günther, 1861)

BMNH 1849.12.25: 2-3 West-Africa (?); coll. Swanzz; 2 syntypes of *Ophiocephalus obscurus* Günther, 1861; 109-134 mm SL.
MNHN 1962.350. Likouala aux Herbes à Bakonango (0°46'S-17°10'E); coll. Stauch; 5 specimens; 76-203 mm TL.
MNHN 1962.351. Likouala aux Herbes à Mossaka (1°13'S-16°48'E); coll. Stauch; 10 specimens; 59-134 mm TL.
MRAC 39291. Moanda, Banana (5°55'S-12°21'E); coll. Bittremieux; 1 specimen.
MRAC 73-22-P-5024. Stanley Pool, Limbili (4°06'S-20'S/15°15'E-23'E); coll. Mandeville; 1 specimen; 256 mm TL.
MRAC 7329-P-1608-1612. Tonde, river Sandje, Wouri, Cameroon (4°13'N-9°50'E); coll. Thys van den Audenaerde; 5 specimens; 154-214 mm TL.
MRAC 76-32-P-2359. Ibefun, Ijebu Province, Nigeria (6°43'N-3°47'E); coll. Clausen; 1 specimen; 205 mm TL.

Method

Except for some standard measurements, the research mainly consisted of scale number counts. Various methods were tried out. Three of them proved valid in distinguishing both species :

1) The number of scales between the first dorsal fin ray base and the lateral line (the scale perforated by the lateral line not included).

2) The number of scales between the lateral line and the middle of the pelvic fin base (the scale perforated by the lateral line not included). The counts are made at the level of the first dorsal fin ray base.

3) The number of scales on the lateral line.

Results

Transversal scale counts showed two groups of specimens : (I) specimens with 8-9 scales above the lateral line and 18-21 below the lateral line; (II) specimens with 6-7 scales above the lateral line and 14-16 below the lateral line. These numbers seem to be fixed : a lower number of scales above the lateral line seems strictly correlated with a lower number below. Therefore, the total number of transversal scales in both groups is distinctly marked (Fig. 1).

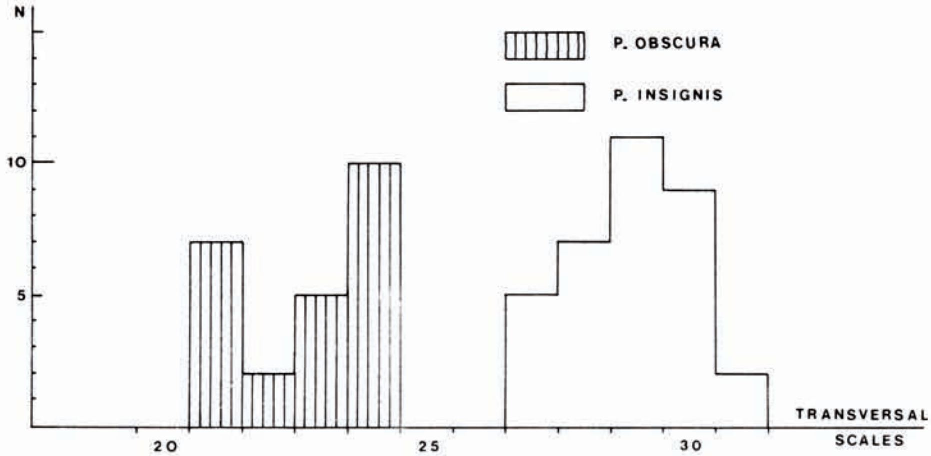

Fig. 1. – Histogram showing the frequency of the number of transversal scales in the specimens examined of *Parachanna insignis* and *P. obscura*.

Studying the type material of *Parachanna insignis*, 8-9 scales were counted above the lateral line, 18-20 below this line, thus completely corresponding with the range of group I. The two syntypes of *Parachanna obscura* on the other hand, showed 6 scales above the lateral line and 14 below, corresponding with the data of group II.

Counting the scales on the lateral line, again two groups could be identified, though not clearly marked, as intermediates could be found (Fig. 2) : *Parachanna insignis* showed 76-86 scales (types 78-81) and *P. obscura* showed 64-78 (types 64-65).

It should be added that except for the differences in scale counts, *Parachanna insignis* showed relatively smaller scales. Finally, preserved specimens of *P. insignis* generally displayed a lighter coloration.

Discussion

The base for this study was the collection discussed in Daget & Stauch (1963) from Likouala aux Herbes on the Central Zaire system. Studying this collection, both *Parachanna insignis* and *P. obscura* could be identified, in part using identification characters suggested by Daget & Stauch (l.c.), but adding the characters mentioned above.

The synonymy introduced by Matthes (it should be noted that although the paper appeared in 1964, Matthes' research actually took place in the late fifties, early sixties) is, in our opinion mainly based on scale counts on the lateral line, which show large intraspecific variation in both species and which partially overlap (Fig. 2). Furthermore, Matthes (1964) omitted to examine the syntypes of *Parachanna insignis* and compared his data to those found on specimens "attributed" to this species.

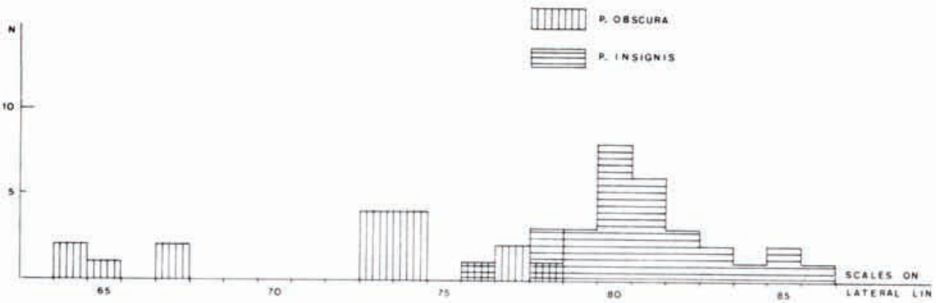

Fig. 2. – Histogram showing the frequency of the number of scales on the lateral line in the specimens examined of *Parachanna insignis* and *P. obscura*.

As transversal scale counts always enable to identify both species without any doubt, Matthes' synonymy can no longer be accepted and *Parachanna insignis* (Sauvage, 1884) is hereby rehabilited as a valid species.

Except for *Parachanna insignis* and *P. obscura*, a third species has been described from Africa, *Parachanna africana* (Steindachner, 1879). The description was based on a single specimen originating from Lagos, West-Africa.

Subsequently the species has been reported from Benin Republic to Southern Nigeria. According to Boulenger (1916), the species can be identified amongst others by its low number of transversal scales (6 above, 12 below the lateral line). Again, these data clearly differ with those for *P. insignis*. According to Daget & Iltis (1965) differences between *P. africana* and the sympatric *P. obscura* are found in the fin ray numbers, the scale numbers on the lateral line and the color pattern. Both species however, seem closely related. Their systematic status will be the subject of further study.

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